REMARKS

Claims 1-16 are pending, of which claims 8 and 16 are withdrawn.

Interview Summary

Applicants appreciate the courtesy of Examiner Harris in granting a telephone interview with the undersigned on June 25, 2008. During the interview, the prior art rejection of claims 1-7 and 9-15 of the Office Action dated April 14, 2008 predicated on U.S. Patent No. 5,935,722 to Moorhead et al. (hereinafter Moorhead) was discussed. Discussed were claims 1 and 9, specifically the limitations "affinity" and "diffusion coefficient."

With respect to the claimed affinity, Examiner Harris stated that "affinity" was indefinite and acknowledged that he did not address this limitation in the Office Action mailed April 14, 2008.

The Applicants' representative stated that one of ordinary skill in this art would recognize that the claimed affinity is a measure of energy released when an electron is attached to a nucleus of another molecule. The Applicants' representative confirmed that affinity is supported in the written description, specifically, in Table 1 on page 8. Discussed were the differences between the claimed affinity and adhesive, magnetic, and van der Waals attractive forces.

Examiner Harris agreed to clarify his position regarding whether or not claimed affinity defines the structure of the soft magnetic material in the next Office Action. The Examiner also stated that he would confirm whether Moorhead discloses the claimed affinity and diffusion coefficient when Applicants file a formal response.

Claims 1-7 and 9-15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Moorhead. Applicants traverse.

The Office Action asserts that Moorhead discloses the use of multilayered soft magnetic materials including ferrous and nonferrous alloys and a preferable magnetic alloy when a composite is to be used for a magnetic core. The Examiner alleges that an insulation layer may consist of an oxide layer on the metal plus an organic adhesive. The Examiner admits that Moorhead does not disclose affinities for nonferrous and/or ferrous metals. The Examiner concludes that these properties are inherent because the Applicants and Moorhead teach virtually identical structures with similar materials.

In the Response to Arguments section, the Examiner contends that some of the particles at the interface in Moorhead would meet Applicants' claim. The Office Action states:

> [The Applicants do] not state in the claim the nature of the attraction. That is whether this affinity was a cohesive, adhesive, magnet, and/or van der Waals attraction.

Contrary to the Examiner's assertion, one of ordinary skill in this art would recognize that the claimed affinity is a measure of energy released when an electron is attached to a nucleus of another molecule. The claimed affinity is supported in the written description, specifically, in Table 1 on page 8. The claimed affinity is different from adhesive, magnetic, and van der Waals attractive forces. Affinity measures the heat generated (kJ/mole at 25°C) during the reaction between a metal and another element, such as, carbon, oxygen, or iron (*see, e.g.,* Table 1).

In the instant case, it is respectfully submitted that the claimed affinity increases when the absolute values of heat generated increases, whereby distinctive structural characteristics are imparted, so that the Examiner must give patentable weight thereto. Further, it is legally erroneous for the Examiner to ignore any claim limitation. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988).

Thereby, as taught in the instant specification, the infiltration of oxygen and carbon into the metal magnetic particle known as the **gettering effect** is prevented (*see, e.g.*, pg. 2, line 25 - page 3, line 10 of the originally filed specification). This minimizes the increase in the impurity concentration within the metal magnetic particle, which prevents degeneration of the metal magnetic particle in its magnetic properties. Preventing oxygen and carbon from diffusing into the metal magnetic particle also minimizes the decrease in the oxygen and carbon contents in the upper film, thus preventing decomposition or degradation of the upper film, which would result in lower insulation in the upper film. However, Moorhead does not disclose or suggest this, and apparently is unaware of the unexpected improvement in preventing the gettering effect provided by the claimed soft magnetic material.

As Moorhead is *silent* as to a lower film surrounding a surface of each metal magnetic particle including a nonferrous material, it cannot provide a basis for asserting inherency of the claimed affinity. Thus, Moorhead fails to disclose or infer, "...wherein ***said nonferrous metal has an affinity with the at least one of oxygen and carbon included in said upper film that is larger than such affinity of iron***," as recited in claim 1.

Similarly, the nonferrous metal has a diffusion coefficient with respect to at least one of oxygen and carbon included in the upper film that is ***smaller*** than such diffusion coefficient of iron, as required by claim 9. Thereby, as taught in the instant specification, the diffusion rate of oxygen and carbon toward the metal magnetic particle from the upper film is reduced at the lower film, which prevents oxygen and carbon from infiltrating into the metal magnetic particle that is known as the **barrier effect** (*see, e.g.*, pg. 3, line 19-pg. 4, line 4 of the originally filed specification). However, Moorhead does not disclose or suggest this, and apparently is unaware of the unexpected improvement in minimizing the increase in impurity concentration in the metal

magnetic particle, and thus prevents deterioration in magnetic properties of the metal magnetic particle made possible by the claimed soft magnetic material.

Therefore, Moorhead fails to disclose or suggest, "...wherein ***said nonferrous metal has a diffusion coefficient with respect to the at least one of oxygen and carbon included in said upper film that is smaller than such diffusion coefficient of iron***," as recited in claim 9.

Further, the Examiner failed to provide requisite factual basis to support the motivation element, noting that the claimed affinity and diffusion coefficient is functionally significant. It is not obvious to select a soft magnetic material with a lower film surrounding a surface of the metal magnetic particle and including a nonferrous metal and an insulating upper film surrounding a surface of the lower film and including at least one of oxygen and carbon where ***the nonferrous metal has an affinity with the at least one of oxygen and carbon included in the upper film that is larger than such affinity of iron***. It is not obvious to select a soft magnetic material with a lower film including ***a nonferrous metal having a diffusion coefficient with respect to the at least one of oxygen and carbon included in the upper film that is smaller than such diffusion coefficient of iron***.

Accordingly, in view of the foregoing, withdrawal of the foregoing rejection is respectfully requested.

In view of the above remarks, Applicants submit that this application should be allowed and the case passed to issue. If there are any questions regarding this Response or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper,

including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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